



I-TEAM BRIEF



The Innovation Team (I-Team) at the Caltrans Division of Research and Innovation, in cooperation with its partners, develops proven, ready-to-deploy innovations in methods, materials, and technologies that enable Caltrans to provide the most effective management of public services, resources, and infrastructure.

SEPTEMBER 2010

Updated: October 2010

DIVISION OF RESEARCH AND INNOVATION

WeatherShare

Streamlined access to comprehensive surface weather data

Caltrans and emergency responders use road and weather information to make the roads safer and to inform travelers of dangerous conditions such as forest fires and snowstorms. There was a need for a more sophisticated tool to address this major issue from a traffic-management perspective. **The Caltrans I-Team supported the development of WeatherShare, a single source, user-friendly decision support tool that integrates and disseminates all available weather data, and is tailored to the needs of Caltrans, particularly Transportation Management Center (TMC) operators, Maintenance Staff, and Emergency Response Providers.**

READY TO DEPLOY

WeatherShare merges real-time weather data from nearly 3300 weather stations in California, and aggregates current and forecast weather information. Quality control of data is performed to ensure the reliability and accuracy of information, and alerts are implemented for special conditions such as Ice Warning, Fog Warning, Wind Warning, and Red Flag Potential Index for fire danger.

NEW AND IMPROVED

- Covers the entire state of California including all 12 districts and 58 counties.
- Draws data from Caltrans RWIS stations (107 stations), MADIS stations (690 stations, under National Oceanic and Atmospheric Administration), MesoWest stations (2474 stations from the University of Utah), and the National Weather Service Advanced Hydrologic Prediction Service.
- The map-based interface was developed to user-friendly and intuitive, with the ability to pan, zoom, and select layers and icons to view further information.

Caltrans and emergency responders use weather information to make the roads safer.



About WeatherShare

WeatherShare was developed by the Western Transportation Institute at Montana State University, and sponsored by Caltrans to improve weather-related situation assessment, incident recognition, and response by providing streamlined access to surface weather data from multiple sources.



GET STARTED

Contact:

Mandy Chu, Caltrans DRI
mandy_chu@dot.ca.gov, 916.654.7656

Learn More

TRB: Presentation: Regional Pilot Weather Information System for Surface Transportation and Incident Management
<http://pubsindex.trb.org/view.aspx?id=777656>

Project Development Presentation:
<http://www.tinyurl.com/Caltrans-weathershare>

WTI Project Web Page:
<http://www.westerntransportationinstitute.org/research/425069.aspx>



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SUCCESSES

- WeatherShare is currently being used by Caltrans Districts 2 and 3.
- The project has been presented at: ITS America Annual Meeting (2007), Western States Forum (2009), National Rural ITS (2009); AASHTO Annual Meeting (2009)
- Current Caltrans partners: District 2, District 3, District 10, Headquarters Traffic Operations, Maintenance, Aeronautics, and IT
- In addition to primary Caltrans users, external customers include NorCal Emergency Medical Services, the California Highway Patrol, the California Department of Forestry and Fire Protection, and the Western Transportation Institute at Montana State University.

ADDITIONAL BENEFITS

WeatherShare downloads National Weather Service forecast warnings and alerts every fifteen minutes. That data includes:

- Warnings: Tornado, Flash flood, Blizzard, Winter Storm, High Wind, Storm, Avalanche, Severe Weather statement, Flood, Red flag, Heavy Freezing Spray.
- Watches: Flash Flood, Winter Storm, Flood, High Wind, Fire Weather, Coastal Flood, Special Weather Statement, Short Term Forecast.
- Advisories: Winter Weather, Flood, High Surf, Small Craft, Brisk Wind, Lake Wind, Wind

Use is driven largely by conditions: when there are weather events, the system is used more frequently.

GET READY

- The system and website software are fully operational and are available for use throughout California.
- View WeatherShare: <http://www.weathershare.org/>
- Use the WeatherShare Quick Start Guide: <http://www.weathershare.org/QSG.htm>
- View the animated show: <http://www.westernstates.org/Projects/Weathershare/Updates/2010-04-29.html>

This WeatherShare screen shows recent conditions across the state.

